

## ***Metarranthis apiciaria* (Barrens Metarranthis Moth)**

### **Priority 2 Species of Greatest Conservation Need (SGCN)**

**Class:** *Insecta* (Insects)

**Order:** *Lepidoptera* (Butterflies, Skippers, And Moths)

**Family:** *Geometridae* (Emerald Moths And Allies)

#### **General comments:**

No modern EOs - possibly extirpated; type locality is pitch pine, which is rare in ME - may limit potential for additional EOs, but habitat and host plant are undocumented; species has experienced very large (>90%), unexplained declines throughout range; not found in seemingly suitable habitat where formerly present; some survey effort by Schweitzer, Albright, and others;

#### **Species Conservation Range Maps for Barrens Metarranthis Moth:**

Town Map: [Metarranthis apiciaria\\_Towns.pdf](#)

Subwatershed Map: [Metarranthis apiciaria\\_HUC12.pdf](#)

#### **SGCN Priority Ranking - Designation Criteria:**

**Risk of Extirpation: NA**

**State Special Concern or NMFS Species of Concern:**

*Metarranthis apiciaria* is listed as a species of Special Concern in Maine.

**Recent Significant Declines: NA**

**Regional Endemic: NA**

**High Regional Conservation Priority:**

NatureServe:

Global Rank: G2

**High Climate Change Vulnerability: NA**

**Understudied rare taxa: NA**

**Historical:**

Species currently listed as state (SH) or global (GH) historical (by MDIFW or NatureServe) that have some reasonable probability of rediscovery with further survey effort.

**State Rank:** SU, **Global Rank:** G1G3, **Rounded Global Rank:** G2, **MDIFW Historical:** Yes

**MDIFW Historical Notes:** No modern EOs - possibly extirpated; type locality is pitch pine, which is rare in ME - may limit potential for additional EOs, but habitat and host plant are undocumented; species has experienced very large (>90%), unexplained declines throughout range;

**Culturally Significant: NA**

#### **Habitats Assigned to Barrens Metarranthis Moth:**

##### **Formation Name      Northeastern Upland Forest**

**Macrogroup Name      Central Oak-Pine**

**Habitat System Name:** Central Oak-Pine Macrogroup - Unknown Habitat System **Notes:** *potential; habitat associations and host plant undocumented*

**Habitat System Name:** Northeastern Interior Pine Barrens **\*\*Primary Habitat\*\*** **Notes:** *type locality but host plant and habitat undocumented*

**Macrogroup Name      Northern Hardwood & Conifer**

**Habitat System Name:** Northern Hardwood & Conifer Macrogroup - Unknown Habitat System **Notes:** *potential; habitat associations and host plant undocumented*

#### **Stressors Assigned to Barrens Metarranthis Moth:**

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Stressor Priority Level based on Severity and Actionability		Moderate Severity	High Severity
	Highly Actionable	Medium-High	High
	Moderately Actionable	Medium	Medium-High
	Actionable with Difficulty	Low	Low

**IUCN Level 1 Threat      Natural Systems Modifications****IUCN Level 2 Threat:**      Fire and Fire Suppression**Severity:** Severe**Actionability:** Moderately actionable**Notes:** Pine barren habitat is fire dependent - fire suppression can alter successional stage and habitat availability over time; fire can cause direct mortality**IUCN Level 1 Threat      Other Options****IUCN Level 2 Threat:**      Lack of knowledge**Severity:** Moderate Severity**Actionability:** Highly actionable**Notes:** No modern EOs - unknown stressor caused past declines; undocumented habitat/host plant; lack of comprehensive surveys to identify occurrences and determine species status**IUCN Level 1 Threat      Pollution****IUCN Level 2 Threat:**      Agricultural and Forestry Effluents**Severity:** Moderate Severity**Actionability:** Highly actionable**Notes:** Nontarget species impacts from aerial pesticides; especially control efforts for gypsy moth in southern ME**IUCN Level 1 Threat      Residential and Commercial Development****IUCN Level 2 Threat:**      Housing and Urban Areas**Severity:** Severe**Actionability:** Moderately actionable**Notes:** Habitat loss and fragmentation; pine barren habitat is prime land for development in southern ME**IUCN Level 1 Threat      Agriculture and Aquaculture****IUCN Level 2 Threat:**      Annual and Perennial Non-timber crops**Severity:** Moderate Severity**Actionability:** Moderately actionable**Notes:** Some barren habitat is being converted to intensive blueberry production**IUCN Level 1 Threat      Energy Production and Mining****IUCN Level 2 Threat:**      Mining and Quarrying**Severity:** Moderate Severity**Actionability:** Moderately actionable**Notes:** Habitat loss (e.g., sand and gravel extraction)**IUCN Level 1 Threat      Residential and Commercial Development****IUCN Level 2 Threat:**      Commercial and Industrial Areas**Severity:** Moderate Severity**Actionability:** Moderately actionable**Notes:** Habitat loss and fragmentation; pine barren habitat is prime land for development in southern ME**IUCN Level 1 Threat      Transportation and Service Corridors****IUCN Level 2 Threat:**      Roads and Railroads**Severity:** Moderate Severity**Actionability:** Moderately actionable**Notes:** Habitat loss and fragmentation; pine barren habitat is prime land for development in southern ME

***Metarranthis apiciaria* (Barrens Metarranthis Moth)****Priority 2 Species of Greatest Conservation Need (SGCN)****Class:** *Insecta* (Insects)**Order:** *Lepidoptera* (Butterflies, Skippers, And Moths)**Family:** *Geometridae* (Emerald Moths And Allies)**IUCN Level 1 Threat****Other Options****IUCN Level 2 Threat:****Other Threat****Severity:** Severe**Actionability:** Actionable with difficulty**Notes:** Species experienced very large, unexplained declines rangewide; is possibly extirpated from ME for unknown reason**Species Level Conservation Actions Assigned to Barrens Metarranthis Moth:**

None. *Only species specific conservation actions that address high (red) or medium-high (orange) priority stressors are summarized here.*

**Conservation Actions Associated with the Dry Barrens Lepidoptera Guild:****Conservation Action****Category:** Species Management**Biological Priority:** critical**Type:** new

Prepare occurrence maps and pesticide spray consultation guidelines for rare Lepidoptera and distribute to strategic partners including Maine Bureau of Pesticides Control.

**Stressor(s) Addressed By This Conservation Action**

Agricultural and Forestry Effluents

**Conservation Action****Category:** Habitat Management**Biological Priority:** critical**Type:** new

Conduct a statewide review of potential high quality barrens habitat that is threatened by succession and identify strategic habitat restoration actions for implementation by key conservation partners.

**Stressor(s) Addressed By This Conservation Action**

Fire and Fire Suppression

**Broad Taxonomic Group Conservation Actions:**

Additional relevant conservation actions for this species are assigned within broader taxonomic groups in Maine's 2015 Wildlife Action Plan: Element 4, Table 4-1.

**Habitat Based Conservation Actions:**

Additional conservation actions that may benefit habitat(s) associated with this species can be found in Maine's 2015 Wildlife Action Plan: Element 4, Table 4-15. Click on the Habitat Grouping of interest to launch a habitat based report summarizing relevant conservation actions and associated SGCN.

*The Wildlife Action Plan was developed through a lengthy participatory process with state agencies, targeted conservation partners, and the general public. The Plan is non-regulatory. The species, stressors, and voluntary conservation actions identified in the Plan complement, but do not replace, existing work programs and priorities by state agencies and partners.*